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10/645,061	08/21/2003	Paul M. Greco	TUC920030084US1	6555

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EXAMINER
SZETO, JACK W

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/645,061	GRECO ET AL.
	Examiner	Art Unit	
	Jack W. Szeto	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 August 2003</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-15, 18-22 and 25-29</u> is/are rejected.

7)☐ Claim(s) <u>16, 17, 23, 24, 30 and 31</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>21 August 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/21/2003</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

Non-Final Official Action

Status of the Specification and Claims

Claims 1-12, 18-19, and 25-26 are rejected under 102(b).

Claims 13-15, 20-22, and 27-29 are rejected under 103(a).

Claims 16-17, 23-24, and 30-31 are objected to as being dependent upon rejected base claims but

contain allowable subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 18-19, and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated

by Mizuno (United States Patent No. 5,838,891).

As per claim 1, Mizuno discloses:

An information storage assembly [Figure 2A], comprising:

a frame [Figure 2A, reference 7: disk chassis];

a memory device disposed on said frame [Figure 2B, reference 1 and Figure 4B: Disk

manager on the chassis contains memory (SRAM or ROM)];

a power supply removeably attached to said frame [column 7, lines 43-46: power source

attached to the backplane of chassis];

a data storage device removeably attached to said frame [Figure 2B, reference 6: disk

enclosure includes disk storage device];

first information written to said memory device [column 8, lines 58-67: status

information is stored on SRAM after devices are polled] [column 9, lines 25-27 and column 10,

lines 10-29: slot address of the disk enclosure provided by disk manager (information in

memory)].

As per claim 2, Mizuno discloses:

The information storage assembly of claim 1, wherein said first information comprises an

identifier assigned to said data storage device [column 9, lines 25-27 and column 10, lines 10-29:

slot address (identifier assigned to storage device) of the disk enclosure provided by disk

manager (information in memory)].

As per claim 3, Mizuno discloses:

The information storage assembly of claim 1, further comprising:

a first memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a first portion];

first data storage device configuration information written to said first memory portion

[Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is stored in

a portion of memory corresponding to storage unit (i.e. first config info written to first portion)].

As per claim 4, Mizuno discloses:

The information storage assembly of claim 3, further comprising:

a second memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a second portion]; and

second data storage device configuration information written to said second memory

portion [Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is

stored in a portion of memory corresponding to storage unit (i.e. second config info written to

second portion)].

As per claim 5, Mizuno discloses:

The information storage assembly of claim 4, further comprising:

a third memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a third portion]; and

third data storage device configuration information written to said third memory portion

[Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is stored in

a portion of memory corresponding to storage unit (i.e. third config info written to third

portion)].

As per claim 6, Mizuno discloses:

A data storage and retrieval system [column 1, lines 8-9], comprising an information

storage assembly [Figure 2A], comprising:

a frame [Figure 2A, reference 7: disk chassis];

a memory device disposed on said frame [Figure 2B, reference 1 and Figure 4B: Disk

manager on the chassis contains memory (SRAM or ROM))];

a power supply removeably attached to said frame [column 7, lines 43-46: power source

attached to the backplane of chassis];

a data storage device removeably attached to said frame [Figure 2B, reference 6: disk

enclosure includes disk storage device];

first information written to said memory device [column 8, lines 58-67: status

information is stored on SRAM after devices are polled] [column 9, lines 25-27 and column 10,

lines 10-29: slot address of the disk enclosure provided by disk manager (information in

memory)].

As per claim 7, Mizuno discloses:

The data storage and retrieval system information storage assembly of claim 6, wherein

said first information comprises an identifier assigned to said data storage device [column 9,

lines 25-27 and column 10, lines 10-29: slot address (identifier assigned to storage device) of the

disk enclosure provided by disk manager (information in memory)].

As per claim 8, Mizuno discloses:

The data storage and retrieval system of claim 6, wherein said information storage

assembly further comprises:

a first memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a first portion];

first data storage device configuration information written to said first memory portion

[Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is stored in

a portion of memory corresponding to storage unit (i.e. first config info written to first portion)].

As per claim 9, Mizuno discloses:

The data storage and retrieval system of claim 8, wherein said information storage

assembly further comprises:

a second memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a second portion]; and

second data storage device configuration information written to said second memory

portion [Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is

stored in a portion of memory corresponding to storage unit (i.e. second config info written to

second portion)].

As per claim 10.

The data storage and retrieval system of claim 9, wherein said information storage

assembly further comprises:

a third memory portion disposed in said memory device [Figure 17 (shown as an

example): Multiple portion of memory includes a third portion]; and

third data storage device configuration information written to said third memory portion

[Figure 17 (shown as an example) and column 13, lines 42-56: disk unit information is stored in

a portion of memory corresponding to storage unit (i.e. third config info written to third

portion)].

As per claim 11, Mizuno discloses:

A method to transfer information between data storage devices, comprising the steps of:

providing an information storage assembly comprising

a frame [Figure 2A, reference 7: disk chassis],

a memory device disposed on said frame [Figure 2B, reference 1 and Figure 4B: Disk

manager on the chassis contains memory (SRAM or ROM)],

information written to said memory device [column 8, lines 58-67: status information is

stored on SRAM after devices are polled] [column 9, lines 25-27 and column 10, lines 10-29:

slot address of the disk enclosure provided by disk manager (information in memory)],

a power supply removeably attached to said frame [column 7, lines 43-46: power source

attached to the backplane of chassis], and

a first data storage device comprising a first identity removeably attached to said frame

[Figure 2B, reference 6: disk enclosure includes disk storage device and column 9, lines 25-27

and column 10, lines 10-29: slot address of the disk enclosure provided];

writing first configuration information from said first data storage device to said memory

device [Figure 17 and column 13, lines 42-56: disk unit information is stored (written after being

polled) in a portion of memory corresponding to storage unit];

detecting an error in said first data storage device [column 18, lines 52-55: error detected

in disk enclosure];

removing said first data storage device from said frame [column 18, lines 65-67: disk enclosure is exchanged];

providing a replacement data storage device [column 18, lines 65-67: disk enclosure is exchanged];

removeably attaching said replacement data storage device to said frame [column 18, lines 65-67: disk enclosure is exchanged];

determining if said replacement data storage device utilizes said first configuration information [column 11, lines 26-30: upon power-on, auto diagnosis is performed and the device is searched and configuration information is utilized and column 19, lines 5-6 recite same auto-diagnosis with replacement device];

operative if said replacement data storage device uses said first configuration information, providing said first configuration information to said replacement data storage device from said memory device [column 11, line 5-8: configuration information provided by SRAM].

As per claim 12, Mizuno discloses:

The method of claim 11, wherein said first configuration information comprises an identifier [column 9, lines 25-27 and column 10, lines 10-29: slot address (identifier assigned to storage device) of the disk enclosure provided by disk manager (information in memory)].

As per claim 18, Mizuno discloses:

An article of manufacture comprising a computer useable medium having computer readable program code disposed therein to transfer information from a first data storage device to a replacement data storage device, wherein said first data storage device is removeably disposed in an information storage assembly comprising

a frame [Figure 2A, reference 7: disk chassis],

a memory device disposed on said frame [Figure 2B, reference 1 and Figure 4B: Disk manager on the chassis contains memory (SRAM or ROM)],

information written to said memory device [column 8, lines 58-67: status information is stored on SRAM after devices are polled] [column 9, lines 25-27 and column 10, lines 10-29: slot address of the disk enclosure provided by disk manager (information in memory)],

a power supply removeably attached to said frame [column 7, lines 43-46: power source attached to the backplane of chassis],

the computer readable program code comprising a series of computer readable program steps to effect:

writing first configuration information from said first data storage device to said memory device [Figure 17 and column 13, lines 42-56: disk unit information is stored (written after being polled) in a portion of memory corresponding to storage unit];

determining if said replacement data storage device utilizes said first configuration information [column 11, lines 26-30: upon power-on, auto diagnosis is performed and the device is searched and configuration information is utilized and column 19, lines 5-6 recite same auto-diagnosis with replacement device];

operative if said replacement data storage device uses said first configuration

information, providing said first configuration information to said replacement data

storage device from said memory device after said first data storage device has been

removed and said replacement data storage device removeably attached to said frame

[column 11, line 5-8: configuration information provided by SRAM].

As per claim 19, Mizuno discloses:

The article of manufacture of claim 18, wherein said first configuration information

includes an identifier [column 9, lines 25-27 and column 10, lines 10-29: slot address (identifier

assigned to storage device) of the disk enclosure provided by disk manager (information in

memory)].

As per claim 25, Mizuno discloses:

A computer program product usable with a programmable computer processor having

computer readable program code embodied therein method to transfer information from a first

data storage device to a replacement data storage device, wherein said first data storage device is

removeably disposed in an information storage assembly comprising

a frame [Figure 2A, reference 7: disk chassis],

a memory device disposed on said frame [Figure 2B, reference 1 and Figure 4B: Disk

manager on the chassis contains memory (SRAM or ROM)],

information written to said memory device [column 8, lines 58-67: status information is

stored on SRAM after devices are polled] [column 9, lines 25-27 and column 10, lines 10-29:

slot address of the disk enclosure provided by disk manager (information in memory)],

a power supply removeably attached to said frame [column 7, lines 43-46: power source

attached to the backplane of chassis], comprising:

computer readable program code which causes said programmable computer processor to

write first configuration information from said first data storage device to said memory

device [Figure 17 and column 13, lines 42-56: disk unit information is stored (written

after being polled) in a portion of memory corresponding to storage unit];

computer readable program code which causes said programmable computer processor to

detect an error in said first data storage device [column 18, lines 52-55: error detected in disk

enclosure];

computer readable program code which causes said programmable computer processor to

provide said first configuration information to a replacement data storage device [column 11,

lines 26-30: upon power-on, auto diagnosis is performed and the device is searched and

configuration information is utilized and column 19, lines 5-6 recite same auto-diagnosis with

replacement device]

from said memory device [column 11, line 5-8: configuration information provided by

SRAM] after

said first data storage device has been removed and said replacement data storage device

removeably attached to said frame [column 18, lines 65-67: disk enclosure is exchanged].

As per claim 26, Mizuno discloses:

The computer program product of claim 25, wherein said first configuration information

includes an identifier [column 9, lines 25-27 and column 10, lines 10-29: slot address (identifier

assigned to storage device) of the disk enclosure provided by disk manager (information in

memory)].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

Claims 13, 20, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mizuno (United States Patent No. 5,838,891).

As per claim 13, Mizuno discloses:

The method of claim 11, further comprising the steps of:

determining a physical address for said replacement data storage device [column 9, lines

25-27 and column 10, lines 10-29: slot address (identifier assigned to storage device) of the disk

enclosure provided by disk manager (information in memory)];

writing said physical address to said memory device [column 9, lines 25-27 and column

10, lines 10-29: slot address (identifier assigned to storage device) of the disk enclosure provided

by disk manager (information in memory)].

Mizuno discloses determining the slot address of the disk enclosure at initialization

[column 7, lines 53-57], however Mizuno fails to explicitly disclose if the physical address (slot

address) of the replacement is determined and stored on the disk manager. It is well known in

the arts and logical to determine the slot address of the replacement and stored it in the disk

manager in the same process the slot address was determined and stored during initialization.

Thus it would have been obvious to one of ordinary skill in the art at the time of invention to

incorporate determining the slot address and writing that address to memory as taught in the

initialization process of Mizuno into the replacement process of Mizuno.

Claim 20 contains the same subject matter as claim 13. Claim 20 is the "article of

manufacture for computer readable program code" interpretation of claim 13, thus claim 13 will

be used as an example for the rejection of claim 20.

Claim 27 contains the same subject matter as claim 13. Claim 20 is the "computer

readable program code" interpretation of claim 13, thus claim 13 will be used as an example for

the rejection of claim 27.

Claims 14-15, 21-22, and 28-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mizuno (United States Patent No. 5,838,891).

As per claim 14, Mizuno discloses:

The method of claim 11, further comprising the steps of:

writing second configuration information to said memory device [column 11, lines 1-11

and Figure 37-38: different configuration information are shown to be written in memory

(second included)];

determining if said replacement data storage device uses said second configuration

information [column 11, lines 26-30: upon power-on, auto diagnosis is performed and the device

is searched and configuration information is utilized and column 19, lines 5-6 recite same auto-

diagnosis with replacement device];

operative if said replacement data storage device uses said second configuration

information, providing said second configuration information to said replacement data storage

device [column 11, line 5-8: configuration information provided by SRAM].

Mizuno discloses having various RAID configurations information written in the disk

manager (memory), however Mizuno fails to explicitly disclose if the replacement device will

use the second configuration information. It is well known in the arts and logical to determine

which configuration information (first, second, or third) the replacement device uses and provide

that information to it if that configuration is available (which it is). Thus it would have been

obvious to one of ordinary skill in the art at the time of invention to incorporate determining and

providing the configuration information used by the replacement device as taught in Mizuno's

initialization process into the replacement process of Mizuno.

As per claim 15, Mizuno discloses:

The method of claim 14, farther comprising the steps of:

writing third configuration information to said memory device [column 11, lines 1-11 and

Figure 37-38: different configuration information are shown to be written in memory (second

included)];

determining if said replacement data storage device uses said third configuration

information [column 11, lines 26-30: upon power-on, auto diagnosis is performed and the device

is searched and configuration information is utilized and column 19, lines 5-6 recite same auto-

diagnosis with replacement device];

operative if said replacement data storage device uses said third configuration

information, providing said third configuration information to said replacement data storage

device [column 11, line 5-8: configuration information provided by SRAM].

Mizuno discloses having various RAID configurations information written in the disk

manager (memory), however Mizuno fails to explicitly disclose if the replacement device will

use the third configuration information. It is well known in the arts and logical to determine

which configuration information (first, second, or third) the replacement device uses and provide

that information to it if that configuration is available (which it is). Thus it would have been

obvious to one of ordinary skill in the art at the time of invention to incorporate determining and

providing the configuration information used by the replacement device as taught in Mizuno's

initialization process into the replacement process of Mizuno.

Claim 21 contains the same subject matter as claim 14. Claim 21 is the "article of

manufacture for computer readable program code" interpretation of claim 14, thus claim 14 will

be used as an example for the rejection of claim 21.

Claim 22 contains the same subject matter as claim 15. Claim 22 is the "computer

readable program code" interpretation of claim 15, thus claim 15 will be used as an example for

the rejection of claim 22.

Claim 28 contains the same subject matter as claim 14. Claim 28 is the "article of

manufacture for computer readable program code" interpretation of claim 14, thus claim 14 will

be used as an example for the rejection of claim 28.

Claim 29 contains the same subject matter as claim 15. Claim 29 is the "computer

readable program code" interpretation of claim 15, thus claim 15 will be used as an example for

the rejection of claim 29.

Allowable Subject Matter

Claims 16-17, 23-24, and 30-31 are objected to as being dependent upon rejected

base/intervening claims, but would be allowable if rewritten in independent form including all

the limitations in their respective base claims and any intervening claims.

Claims 16-17, 23-24, and 30-31 are indicated allowable as a whole, and further

modifications to the scope of the claimed subject matter may jeopardize this indication of

allowable subject matter.

The claims will be listed below and italicized segments indicate subject matter which over come prior arts. Only claims 16-17 will be listed below as claims 23-24 and 30-31 contain the same subject matter.

As per claim 16.

The method of claim 15, further comprising the step of: operative if said replacement data storage devices does not utilize said first configuration information or said second configuration information or said third configuration information, *writing configuration information from said replacement data storage device to said memory disposed in Applicants' information storage assembly.*

As per claim 17.

The method of claim 16, further comprising the steps of: determining if an identifier is to be assigned to said replacement data storage device; operative if an identifier is to be assigned to said replacement data storage device: providing an identifier; and assigning said identifier to said replacement data storage device.

The limitation that overcomes prior art is as described: 1) iteratively checking which of the three configurations a replacement device uses; 2) writing the configuration of the replacement device to memory if the replacement device uses none of the configuration. The Examiner is unable to find sufficient prior art (or motivation to combine) that incorporates all the limitation from claims 11 to 16, thus claim 16 and 17 contain allowable subject matter.
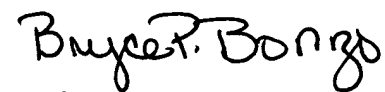
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack W. Szeto whose telephone number is (571) 272-1537. The examiner can normally be reached on M-F 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jws

BRYCE P. BONZO
PRIMARY EXAMINER